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CONTENTS.

ON THE RETURN OF THE PHŒNIX

AND THE

SOTHIC PERIOD.

THE word year, which is common in hieroglyphical inscriptions as part of a date, is spelt BAIT, by means of a Palm branch which is the syllable BAI, and the letter T. *Baït* is also the name of a bird; and hence we get at the reason why the Bird, the Palm branch, and the Year, are united in Egyptian fable. The Bird and the Palm branch are thus used as symbols of the word *Year* which could not otherwise be sculptured for the eye.

In Greek the Palm, the tree of Phœnicia, was called a Phœnix, and hence the Greeks called the fabulous Egyptian bird by the same name.

This fabulous Phœnix was, however, chiefly spoken of as the symbol of a longer period of time, at the end of which it returned to earth to die, and its offspring at once grew out of its mother's ashes. The Romans readily borrowed this, as other Egyptian fables, and Tacitus* tells us that the Phœnix, whose period of return was very variously stated, came to Egypt in the consulship of P. Fabius and L. Vitellius. This was A.D. 34, a year in which we in vain look for anything peculiar to justify the event. But it would seem that Tacitus had made a mistake in the name of one of

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Annals, lib. vi.

the consuls, for Aurelius Victor, in his life of Claudius, places it in the consulship of Plautius and Vitellius. This we can understand; it was A.D. 47, in the year of Rome 800, when their games were celebrated, and it had nothing to do with Egyptian Chronology. Pliny also (lib. x. 2) places the arrival of the Phœnix in Rome in the year of Rome 800, though he says it came to Egypt eleven years earlier, in the consulship of Plautius and Papinius.

Manlius, the Astronomer, as quoted by Pliny, (lib. x. 2) says that the consulship of Licinius and Cornelius, that is the year B.C. 97, was the 215th year of the bird's change. This again has nothing to do with Egypt; that year was simply the 215th year of the Era of the Seleucidæ.

Again, we have a coin of the reign of Constantius, which bears on it a Bird standing on a globe, with the inscription, The happy renewal of the years, *felix temporum reparatio.* This return of the Phœnix was in the year of Rome 1100, and needs no further explanation. Thus we see that any marked chronological epoch was called the Return of the Phœnix.

It will now be necessary to explain the Egyptian civil year before speaking of those returns of the Phœnix which belong to Egypt. The Egyptian civil year had 365 days, and as it was used by the astronomers Hipparchus, Timocharis, Ptolemy, Theon, and others, in recording their observations, which still remain to us, its peculiarities are well understood. For want of the intercallary day in Leap year, the new year's day became one day earlier every four years, as compared with the seasons, or the natural year. So well understood by all was the difference between the civil year and the natural year, that they were called by different names. ΕΤΟΣ was the civil year; ΕΝΙΑΥΤΟΣ the natural year. The natural year was understood to begin at Midsummer; but of course the day was not easily recognised by observation. They attempted, however, to mark it as the day of the Nile's beginning to rise, as the longest day in the year, and still more exactly as the day when the Sothis,

the Dog star, rose vertically. Of course when the year of 365 days was first introduced, it was on the belief that it would agree with the natural year. Herodotus thought it did so agree, and it was not till afterwards, after the change that had taken place was clearly seen, that the writers tell us when it was that the two new year's days had coincided. Censorinus, who wrote on nativities, *De Dei Natali*, and Theon, the Mathematician, let us understand that it was in the year B.C. 1323 when the civil new year's day was our 19th July; and of course in four times 385 natural years, or 1461 civil years, the civil new year's day would again fall on the 19th of July. This was the great return of the Phœnix, and on the Alexandrian coins of Antoninus Pius, in the second year of his reign, A.D. 139, we see the bird crowned with rays of light, and above it the word Αιων, the *age* or *period*. The coins agree with the information of Theon and Censorinus in marking the event.

In addition to these returns of the Phœnix, which I think have all been satisfactorily explained, as belonging either to Roman or Egyptian chronology, Tacitus mentions the tradition of some former returns. The Phœnix, he says, had come to Egypt in the reign of Sesostris, in the reign of Amasis, and in the reign of the third Ptolemy. If these events belong to Egyptian chronology, we must suppose them to have been distant from one another by 365 years, or multiples of the same. In fact, all the conditions of the problem are satisfied by supposing that these three returns divide into four parts the great Sothic period, which began under Menophra, and ended under Antoninus.

Thus as Menophra was reigning B.C. 1323, we conclude from Tacitus that Sesostris reigned 365 years later in 985
Amasis 365 years later..... in 593
Ptolemy, Euergetes..... in 228
each 365 years after the other. We will examine these conclusions separately.

First—The year B.C. 228, when the third quarter of the Sothic period came to an end, falls, as we have supposed,

within the reign of Ptolemy Euergetes. It was the 19th year of his reign, and was remarkable as the only year of his reign in which we find a coin with a date. It would seem that he had marked the event on his coins. This is enough to prove that Tacitus was speaking of the four quarters of the Sothic period.

But, secondly, the year B.C. 593, when the second quarter of the Sothic period came to an end, does not fall within the reign of Amasis, but of his immediate predecessor, Hophra. This disagreement I cannot explain; but it does not shake my belief that Tacitus was speaking of the quarters of the Sothic period.

Thirdly, the year B.C. 958, when the first quarter of the Sothic period came to an end, falls in the reign of Shishank. This is no disagreement with Tacitus, who says that it was in the reign of Sesostris. Sesostris is a name unknown to the Egyptians; and to him, as a great hero, Herodotus first, and then other Greek historians, have given the deeds of several kings, particularly of Rameses and Shishank. But Diodorus Siculus, as quoted by Justin Martyr, corrects the name of Sesostris into Sesonkosis; and Josephus more expressly says, that the Sesostris of Herodotus was Shishank.

The beginning of the Sothic period, of which we have been speaking, and from which the return of the Phœnix was measured, was called by the mathematician Theon, the Era of Menophres, who, we may suppose, was king at the time; and if we can find him in the list of Egyptian kings we shall establish a great point in chronology. This name, Menophra, is, in fact, the prenomen of Thothmosis III., who, no doubt, was reigning in B.C. 1323, when the first day of the month, Thoth, the new year's day, agreed with the heliacal rising of the Dog Star on the 19th of July. His grandson, Thothmosis IV., bore nearly the same name; and, therefore, to him also that date might perhaps be given, but with less probability, as he was a king of far less note than the former.

To this train of reasoning, by which a date is given to

Thothmosis III., some of our antiquaries oppose the zodiac of the Memnonium, published in "Burton's Excerpta." This zodiac is divided into twelve parts, over each of which is written the name of a month. It is also divided into two halves, by a space for the summer solstice, under which is the figure of an ape sitting on a landmark. The beginnings of four of these twelve spaces, whether spaces of time or spaces in the heavens, are marked by the heliacal risings of stars. The Dog Star rises on the 1st of Thoth, and what we must suppose to be α Leonis on the 1st of Paophi, β Leonis on the 1st of Athyr, α Virginis on the 1st of Chœac. A constellation, perhaps the Pleiades, rises in the middle of Mesore. Several other stars or planets are mentioned in other places. Seb, or Saturn, is in Athyr and Mechir; the sun is in Pachon, and the king's name, Rameses II., is in Phamenoth. From this most curious sculpture these antiquaries argue that, like an almanack, it declares that the Dog Star rose on the civil new year's day, the first day of the month of Thoth, in the reign of Rameses II., and thereby gives to him the date of B.C. 1323, which I have given to Thothmosis III. To this train of reasoning there are, however, several objections.

First—If this were an almanack, or exact picture of the year, we ought to find, besides the twelve months, the five extra days which complete the number of 365 days.

Secondly—As the beginning of each of the first four months is marked by the rising of a star, no great exactness can be expected, as the great stars do not happen to follow at these intervals.

Thirdly—Further want of astronomical exactness is shown by this zodiac being divided, not at the equinoxes, but at the solstices. The error in determining the day of the solstice is ten times as great as the error in determining the day of the equinox; hence we must not look for any such minute information before the time of Eratosthenes and Hipparchus, when the use of a gnomon parallel to the earth's pole was introduced, and the equinox first noted.

Fourthly—In this sculpture the rising of the Dog-star is supposed to take place at the Solstice. The sculptor did not know that these events were separated by about twenty-eight days.

From these three circumstances it seems probable, that if the astronomers had ever recorded by such means the position of the moveable new year's day, it would be many years before the record would be seen to be wrong. In one hundred years the days of the month would have moved twenty-five days. This would be hardly perceptible. During this time the notion in men's minds would have become fixed that the year was of 365 days only, as the priests told Herodotus. Any apparent disagreement would be set down to error in the observation; therefore it is not incredible that in the reign of Rameses II., which I suppose to be nearly two hundred years after the era of Menophrose, the loose assertions of this sculptured almanack should be made, which were then about forty days wrong.

But, lastly, it seems probable that this sculpture is not an almanack at all, but a zodiac, as it is usually called; that the names of the months here mean, not portions of time, but spaces in the heavens. It is perhaps of the nature of the king's horoscope, to tell us, if we could understand it, the places of the sun and planets on a particular day. If so, it does not contain the names of the civil months, nor tell us in what season the civil new year's day falls. The whole chronological argument built upon it falls, and we find nothing in it to contradict the former conjecture, that Thothmosis III., whose prenomen was Menophra, gave his name to the era which, according to Theon, began in B.C. 1323.

REMARKS

ON THE

TOPOGRAPHY OF NINEVEH.

BY

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READ BEFORE THE SYRO-EGYPTIAN SOCIETY OF LONDON,

On JUNE 12th, 1849.

JOHN LEE, Esq., L.L.D., F.R.S., in the Chair.

REMARKS

ON THE

TOPOGRAPHY OF NINEVEH.

In discussing the topography of Nineveh, we must distinguish between the *country* of Assyria, and the Assyrian *empire*. They are both designated in Hebrew by אשור Asshur, the people being also described by the same term, only that in the latter sense it is masculine, in the former, feminine. In the Septuagint it is commonly rendered by Ασσουρ or Ασσυριους, and in the vulgate, by Assur and Assyrii, and seldom or never by Ασσυρια, or Assyria.

Assyria Proper appears to have been a region more or less gathered around the Upper Tigris and Lower Zab rivers. It derived its name from the progenitor of the aboriginal inhabitants. Asshur, the second son of Shem, (Gen. x. 22, I. Chron. i. 17.) Its precise limits in early times are unknown; but when its monarchs enlarged their dominions by conquest, the name of the metropolitan province was extended to the whole empire. Hence, while Homer calls the inhabitants of the country north of Palestine *Arimoi*, evidently the Aramian or Aramœans of the Hebrews, the Greeks of a later period, finding them subject to the Assyrians, called the country Assyria, or by contraction, *Syria*, a name which it has ever since borne. When Babylonia was subject to the Assyrians, Nebuchadnezzar was called king of Assyria (2 Kings xxiii. 29), though resident at Babylon.

Yet, ultimately, this name again became restricted to the

original province east of the Tigris, which was called by the Greeks Ασσυρια, (Ptolemy vi. 1), and more commonly Αρουρια, (Strabo xvi., p. 507), or Αρυρια (Dion Cassius lxviii. 28), the latter being only a dialectic variety of pronunciation, derived from the Aramæan custom of changing s into t.

There is a certain ambiguity in the account given of the origin of the earliest Assyrian state, in Gen. x., which has never yet been perfectly cleared up. After describing Nimrod, son of Cush, "as a mighty one in the earth," the historian adds (ver. 10) "And the beginning of his kingdom (or rather, the first theatre of his dominion) was Babeh, and Erech, and Accad, and Calneh, in the land of Shinar." Then follow the words which are rendered in the English version: "Out of that land went forth Asshur and builded Nineveh," or (as it is in the margin) "out of that land he (*i.e.* Nimrod) went into Assyria and builded Nineveh."

This second version corroborated by the Targums of Onkelos, and Jerusalem, and of St. Jerome, has been supported in modern times by such Biblical critics as Bochart, Hyde, Marsham, Wells, Faber, Hales, and in Dr. Kitto's recently published Cyclopædia of Biblical Literature. It has been argued that Moses is enumerating the descendants of Ham, and that it is not likely that he would interrupt the details to give an account of Asshur, a son of Shem, whose posterity are not introduced till verse 21. Besides, in the circumstance of Asshur leaving one country to settle in another, there was nothing remarkable, for that was the case with almost all Noah's grandchildren. But if we understand it of Nimrod, both the connection and the sense will be manifest. The design obviously is to represent him as a potent monarch and ambitious conqueror. His brethren, the other sons of Cush, settled in the South, but he advancing northward, first seized on Babylonia, and proceeding thence into Assyria, (already partially colonized by the Asshurites, from whom it took its name) built Nineveh and the other strongholds mentioned, in order to secure his conquests. This view is confirmed by a passage in Mic. verse 6, where, predicting

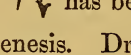
the overthrow of Assyria by the Medes and Babylonians, the prophet says, "They shall devour the land of Asshur with the sword: even the land of Nimrod in the entrance thereof." (Comp. v. 5.)

It likewise agrees with the native tradition, (if we can depend on the report of Ctesias) that the founder of the Assyrian monarchy and the builder of Nineveh was one and the same person, *viz.*, Ninus, from whom it derived its name (Nin's abode); and in that case, the designation of Nimrod (the Rebel) was not his proper name, but an opprobrious appellation imposed on him by his enemies.

The name of certain original sites in Assyria, which date anterior to the foundation of Nineveh, are still to be traced. Among the most remarkable of these is that which by its actual name likewise connects Nineveh with Assyria, but which Mr. Rich first pointed out, was by all well-informed natives called Al Athur or Ashur, from which the whole country was denominated. Major Rawlinson has also pointed out that Yakut, in his geographical work called the Moejem el Buldan, says, under the head of "Athur" Mosul, before it received its present name, was called Athur, or sometimes Akur with a Kaf. It is said that this was anciently the name of Al Jezireh (Mesopotamia), the province being so called from a city, of which the ruins are now to be seen near the gate of Selamiyah, a small town, about eight farsakhs east of Mosul; God, however, knows the truth." The same notice of the ruined city of Athur, or Akur, occurs under the head of "Selamiyah." Abulfeda says, "to the south of Mosul, the lesser (?) Zab flows into the Tigris, near the ruined city of Athur." In Reinand's edition (vol. i., p. 289, note 11), there is the following extract from Ibn Said:—"The city of Athur, which is in ruins, is mentioned in the Taurat (Old Testament.) There dwelt the Assyrian kings who destroyed Jerusalem." It only remains to add to these notices of the Arab geographers, that Rich, in his residence in Kurdistan, vol. ii., p. 129; the Rev. N. Morren, in the Cyclopædia of Biblical Literature, Art. 1, Assyria;

and Dr. Layard, in his Nineveh and its Remains, vol. ii., p. 245, all admit the existence of the city of Ashur or Athur; and the latter expressly tells us that the ruins now called Nimroud, are also known as those of Athur.

Eusebius, after Abydenus, names six kings as the predecessors of Ninus. They were Belus, Babius, Anebus, Arbelus, Chaaliis, and Arbelus; Arbel and Aneb, according to Major Rawlinson's reading of the inscriptions, were father and grandfather of Ninus. We have the name of one of these kings, at least, preserved in the city of Arbel, whose vast mound, if explored, might, like Athur, afford sculptures and inscriptions of greater antiquity than those of Nineveh.

The great feature of Dr. Layard's Archæological discoveries has been the determination of the north-west edifice at Athur or Nimrod, to be the most ancient hitherto discovered in Assyria. The name which occurs in the inscriptions in that place  has been used by Rawlinson as that of the Asshur of Genesis. Dr. Hinks has also published his conviction, that the first word of the inscription is either the name, or an abbreviation of the name of Athur, the country of Assyria; but the Dr. also adds, which is a non-sequitur, that the same name also stands for the city of which the historical name is Nineveh.

Mr. Layard is inclined to attribute the erection of the oldest palace of Assyria to Nimrod, or the first Ninus, mainly upon the grounds that Diodorus Siculus states, that in the palace of Ninus or Semiramis, at Babylon, were represented various hunting scenes, in which the queen was seen throwing a javelin at a panther, and Ninus as transfixing a lion with a lance; and that it is remarkable, that while at Koyunjik and Khorsabad, such representations have not been discovered, they abound in the earliest palace of Nimrod. This is certainly so far plausible, while at the same time it leaves it remarkable that there should be no remains of the time of Asshur, or of the other six kings, predecessors of Ninus, at the metropolis of Assyria, and that a conqueror should be

the first builder of great edifices, and the introducer of the arts of sculpture and writing.*

It would appear, further, from Dr. Layard's important explorations, that there are buildings in Assyria which so far differ in their sculptures, in their mythological and sacred symbols, and in the character and language of their inscriptions, as to lead to the inference that were at least two distinct periods of Assyrian history. Dr. Layard's view of the case is, that Nimrod or Ninus on his arrival at Asshur founded a first palace, and called the place after himself, "that future monarchs added to the first building, and that the central palace arose by its side. As the population increased with the duration and prosperity of the empire, and by the forced immigration of conquered nations, the dimensions of the city increased also. A king founding a new dynasty, or anxious to perpetuate his fame by the erection of a new building, may have chosen a distant site. The city, gradually spreading, may at length have embraced such additional palaces. This appears to have been the case with Nineveh. Nimrod represents the original site of the city. To the first palace, the son of its founder added a second, of which we have the ruins in the centre of the mound. He also built the edifice now covered by the great mound of Baasheikha, as the inscriptions on the bricks from that place prove. He founded, at the same time, a new city at Kalah Sherghat. A subsequent monarch again added to the palace at Nimrod, and recorded the event on the pavement slabs, in the upper chambers of the western face of the mound. At a much later period, when the older palaces were already in ruins, edifices were erected on the sites now marked by

* Major Rawlinson has since enumerated the kings of Nimrod, who followed in direct descent, as Temenbar I., founder of the city ; Hevenk I. his son ; Altibar ; Asser-adan-pal, or Sardanapalus, the founder of the North West palace ; Temenbar II. ; Hushihem and Hevenk II. Hevenk II. of Major Rawlinson would appear to correspond with the name of Shishonk, founder of the twenty-second Egyptian dynasty, as decyphered by Dr. Hincks on the Nimrod Obelisk.

the mounds of Khorsabad and Karamles. The son of their founder built the great palace at Kouyunjik, which must have exceeded those of his predecessors in extent and magnificence. His son was engaged in raising one more edifice at Nimrod; the previous palaces having been long before deserted or destroyed, when some great event, perhaps the fall of the empire and destruction of the capital, prevented its completion.

The city had now attained the dimensions assigned to it by the book of Jonah, and by Diodorus Siculus. If we take, says Dr. Layard, (vol. ii., p. 247), the four great mounds of Nimrod, Kouyunjik, Khorsabad and Karamles, as the corners of a square, it will be found that its four sides correspond pretty accurately with the 480 stadia, or 60 miles of the geographer, which make the three days' journey of the prophet. Within this space there are many large mounds, including the principal ruins in Assyria, such as Kara Kush, Baasheikha, Baazani, Huseini, Tel Yara, &c., and the face of the country is strewed with fragments of pottery, bricks, and other fragments.

It is necessary in justice to Dr. Layard to add, that he subsequently admits that each quarter of the city may have had its distinct name; hence the palaces of Evorita, where Saracus destroyed himself, and the Mespila and Larissa of Xenophon, applied respectively to the ruins of Kouyunjik and Nimrod. "I know of no other way," Dr. Layard also adds, "than that suggested, to identify all the ruins with Nineveh; unless, indeed, we suppose that there was more than one city of the same name; and that, like Babylon, it was rebuilt on a new site, after having been once destroyed. In this case Nimrod and Kouyunjik may represent cities of different periods, but of the same name; for I have shown the palace of Kouyunjik must have been built long after the foundation of the Nineveh, of well authenticated history. The position of Khorsabad, its distance from the river, and its size, preclude the idea that it marks alone the cite of a large city. As the last palace of Nimrod must have been

founded whilst those at Kouyunjik and Khorsabad were standing, it is most probable that the city at that time embraced the remains of the town, although the earlier buildings may have been destroyed."

It may be objected to these comprehensive generalizations, that, in the first place, the identity of Nimrod of Scripture with the Ninus of Ctesias is very far from being satisfactorily established. But whether we admit that Nimrod went forth out of Babel into Asshur and founded Nineveh, or that Asshur was driven out of Babel by Nimrod, and founded a city and country after his own name,* or that Nimrod was identical with Belus, and Ninus the husband of Semiramis was his son, who was again succeeded by Ninyas; the fact of a site called Athur in the country of the same name, remains equally firmly established by local tradition, by the Arabian writers previously quoted, and by the testimony of travellers, more particularly that of Mr. Rich, and of Dr. Layard himself. The identity of this site with that of the Nimrod of present times, and with the Larissa of Xenophon, has been shown also in an equally satisfactorily manner. If Asshur went forth and founded a city, it is most probable that city bore his own name; while if Nimrod or his son Ninus went forth into Asshur, it is not likely that either would have founded Nineveh on the already existing site of Athur. But Layard found that the inscriptions at Baasheikha bore records of a building erected by a successor to the builder of the N.W., or most ancient palace at Athur, who also erected a second or central palace at Athur itself, and who further founded the great site of Kalah Shergat. Now these transactions would best explain the then state of things; an original city of Athur, a new city founded by Ninus (whether Nimrod or his son), and called after him, (now represented by Baasheikha), a new palace at Athur,

* "In either case" remarks Mr. Fraser, in his excellent little work on Mesopotamia and Assyria, "Asshur must have preceded Nimrod, as we find the country already called by his name."

and a new city, name unknown, lower down the Tigris; possibly also other sites as yet unexplored.

Another and a still more formidable objection than even making Athur and Nineveh to be the same places, and the necessity of admitting an ancient and a more modern Nineveh, the one at Athur, the other at Kouyunjik, as is done by Layard, is that if we take the dimensions assigned to Nineveh in after times, when it had obtained its greater extent and magnificence by Diodorus Siculus, we shall scarcely find that such would embrace the extent of territory which Layard includes in his ideal Nineveh. If we draw the lines as proposed by Layard himself, and in his own map from the four great mounds of Nimrod, Kouyunjik, Khorsabad, and Karamles, as the corners of the irregular quadrangle described by the Sicilian, we shall find a distance of sixteen geographical miles between the N.W. palace of Nimrod and the mound of Karamles, instead of the nine or ten miles that would be given by the ninety stadia of Diodorus, computing the stadium at 607.62977 feet, or as a fraction of an arc of the meridian. (Major Jervis, in Athenæum, No. 580.) We should find a still greater excess in laying down the other side of the quadrangle, from the N.W. palace of Nimrod to the mound of Kouyunkih, a distance in Layard's map of twenty-three geographical miles, eight farsakhs, from Mosul, or upwards of twenty geographical miles from Mosul, according to Yakut; and which, according to Diodorus, should only be one hundred and fifty stadia, or sixteen and a half miles. Yet Layard's distances are corroborated by the Arabian geographer, Yakut, who places Athur eight farsakhs, or from eighteen to twenty miles from Mosul; by Xenophon, who describes Larissa as being six parasangs, or eighteen miles from the castle identified with Yarumjah; and by my own researches. (Travels in the Track of the Ten Thousand Greeks, &c., p. 139.) The other sides of the quadrangle would not be so open to objection.

If the space allotted to Nineveh by Diodorus Siculus, and to which, after all, no more real importance in respect to

mathematical accuracy ought to be attached than to the dimensions assigned by the ancients to the walls of Babylon, (one of the standard fables of antiquity,) or to those assigned by Xenophon to the walls of Mespila and Larissa; but still if such a space were marked off on the map upon the supposition of Baasheikha being the original Nineveh, and Nuniyah the sight of the palace, &c., when at its highest power, we should have an irregular quadrangle which would include the mounds at Nuniyah, Tel Kaif, Tel Escof, Jeraiyah, Khorsabad, Baazani, Baasheikha, Karamles, and Kara-Kosh, a mass of Assyrian remains which group together with far greater topographical aptitude than the disposition of the quadrangle proposed by Layard.

It is true that, by such a disposition. we should exclude from Nineveh the ancient Athur, Tel Yakub, Husseini, Dohuk, and a few other less important sites; but Layard's proposed quadrangle would, to include Athur, exclude not only Tel Yakub, Husseini, Tel Kaif, Tel Escof, Jerraiyeh, Dohuk, and others, but also Baazani, and Baaisheikha; the latter the monumentally established site of the palace of the successor of the builder of the N.W. palace at Nimrod.

In any disposition that might be proposed for the site of the Nineveh of three days' journey, or of the 480 stadia ($52\frac{1}{2}$ geographical miles), some of the sites of Assyrian ruins now standing on the plain of Aturia must be excluded; not to mention Arbil, whose name traces its origin back to a king of the first dynasty; nor Kalah Shergat, also determined by Layard to have been erected by a king of the first dynasty, and to be, in fact, coeval with the building of Baasheikha, and the central palace of Nimrod; nor the mound at Hammam Ali, to which, according to Layard, tradition points as the site of a summer palace of the Assyrian monarchs; nor Keshaf, nor Shir: and still less the more or less uncertain and obscure sites of Rehoboth, and Calah, and Resen, contemporaneous with the first Nineveh, and which, by the remoteness of their assumed or known position, and total topographical separation from the groups in question, could scarcely be made to come under the same category.

Every thing in the enquiry however, the positive existence of a more ancient city of Athur, the foundation of a neighbouring site now called Baasheikha, contemporaneously with the existence of Athur, and the exceeding distance and topographical separation of the Nineveh of history, the city of the denunciations of Jonah, and of Nahum, the Al Koshite, (the tomb of the one prophet being assigned to the city itself, that of the other to his native abode in the mountains northward of Nineveh,) from the more ancient city of the son of Shem, would indicate a distinction between the two sites. It is possible to effect a kind of topographical alliance between Nineveh, and Baasheikha, and Khorsabad, and Tel Kaif. It is scarcely more possible to do so between two sites like Nineveh and Nimrod, at a distance of upwards of twenty miles from one another, the one at the ever celebrated pass of the Tigris, the other at the junction of the Diab or Zab, and the Tigris, than it is between Nimrod and Kalah Shergat, Nimrod and Arbil.

Layard lays some stress (vol. ii., p. 242) upon the statement of Strabo, that the city stood between the Tigris and the Lycus, or Dhab; but all that the Assyrian Geographer says, is *η μεν Νινος πολις εν πεδιω χειμενη της Ατθριας*. The city of Ninus was situated on the plain of Aturia, and shortly afterwards he adds, "the plains of Aturia surround Ninus beyond the Lycus." Herodotus describes Ninus as situate on the Tigris, (in lib. 1, cap. cxciii.) and the Tigris as flowing through the city (in lib. 2, cap. cl.). Pliny (lib. 6, cap. xiii.) says, "*Fuit et Ninus imposita Tigris, ad solis occasum spectans, quondam clarissima.*" If in the face of such authorities, the Alexandrian geographer places Nineveh on the Lycus, little more importance is to be attached to the statement than to that of Ctesias, who places Nineveh on the Euphrates; while if Strabo had had Athur in view when he spoke of Nineveh as situated between the two rivers, he would, with his usual accuracy, have spoken of the site as being at the junction of the two rivers, rather than between the two, which would be the case with the other group of sites previously indicated.

Since the above was written, Major Rawlinson has advocated, at a meeting held by the Royal Asiatic Society, on the 12th of January, 1850, the identity of the ruins of Nimrod, with those of the Biblical Calah. The learned Orientalist argues that Halah, the other form of the same name, assimilates very closely to the cuneiform orthography of the name, that the Samaritan version called Calah, Lachisa, whence Xenophon's Larissa, that the Greek title of the district was Calachene, and that there is an absolute identity between Hadith, which is the Chaldee name for Calah, and the Haditha of the Arabs.

Awaiting the publication of these researches in detail, it may be remarked, upon this new identification, that in the absence of further information, we must suppose that the Haditha of the Arabs alluded to as "a large town in the immediate vicinity," is the Haditha of the Arab geographers, who described two towns, no longer in existence, the one called Senn, at the mouth of the lesser Zab, the other called Haditha, at or opposite to the greater Zab. The Arab tribe of Haddidin, it may also be observed, still frequent the same neighbourhood, and lead the flocks of the people of Mosul to pasture.

It would appear, also, that the province called by the Greeks and Romans, Adiabene, was called Hadiab, by the Chaldeans. Thus the passage in Jeremiah (li. 27), in which the kingdoms of Ararat, Minni, and Ashchenaz, are enumerated, is rendered in the Chaldæan, Kardu (Kurdistan), Hurmine (Armenia), and Hadiab (Adiabene). So, also, that in Ezekiel (xxvii. 23), which relates that the merchants of Haran, and Cannah, and Eden, were those of Tyre, is rendered in the Chaldean by Carræ, Nisibis, and Hadiab—Carræ being the well-known Roman name for Haran.

The derivation of the names Hadiab, Haditha, and Adiabene, may all be traced to the rivers by which the territory is washed. Ammianus Marcellinus distinctly says that Adiabene was so called after the rivers Diabas and Adiabias. Deba, according to Bochart, is a wolf in Chaldean, hence Diaba is the same as the Λυκος of the Greeks, and Lycus of the Romans, the name given by those nations to the greater Zab. The transposition of D into Z is satisfactorily explained

by the commentator, H. Valesius, who says, *ut enim Diæta et Zæta; Diabolus et Zabolus; Hippo Diarrytus et Zarrytus promiscue dicitur ita plane Diabas et Zabas.* Cellarius, Bochart, Fuller, and other geographical and biblical commentators, admit the Lycus and Diaba to signify the same thing, and the Diaba to be the same as the Zab or Zerb, and Hadiab or Adiabene to take its name after the river.

Ptolemy enumerates the regions of Assyria as Arrapachites towards Armenia, next Adiabene, thence towards the East, Arbelitis, upwards Calacine or Calachene, inferiorly, Apolloniatis and Sittacene. Pliny says, Adiabene was formerly called Assyria, and Ammianus repeats the same thing. Suidas says it was situated between the river Tigris and the Oena, another name apparently for Zab. Calach or Calah, on the contrary, Bochart tells us, was a city at the head of the region called Calachene, a mountain province. Ptolemy, who, as we have before seen, writes Calacine for Calachene, likewise places the province above Adiabene in the Mons Niphatis, the Snowy or Gordyæan mountains. According to Polybius, Callonitis (but this may refer to the district of Halah) was at the foot of Zagros, while Adiabene is always mentioned by writers as that part of Assyria which was noble, and which contained the cities of Nineveh and Gangamela. Cellarius, in his maps, makes Adiabene "the river," and Calachene "the mountain" district.

Thus it would appear, that Hadiab, Haditha, and Adiabene, are more readily derived from the name of the river Diab or Zab, than from Calah; that Nimrod appears to be in the province of Adiabene rather than that of Calachene, which was a mountain province; and that if as Major Rawlinson opines, Nimrod represents Calah, and Nebi Yunus, Nineveh, another great city Resen must, on scriptural authority, have been between the two, a distance of about twenty miles, where there are certainly fragments of ruin, as Kara Kush, Yarumjah etc. All these points being taken into consideration, the identification of Calah with Nimrod does not, as it at present stands, appear to be satisfactory.

ON THE ANTIQUITY

OF THE

EGYPTIAN CALENDAR.

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THE written calendar of the ancient Egyptians forms no exception to the persistent uniformity of thought and style which characterized that remarkable people. The same symbols, used to represent the same phenomena of the year, appear on monuments of all epochs, from the oldest of the pyramids down to the latest period of Egyptian history. The date of the invention of this calendar, lost in a most remote antiquity, it may be, and apparently is, impossible to ascertain; but it is by no means impracticable to fix a period subsequent to which it could not have originated, and this on the internal evidence afforded by the calendar itself.

Such a date once ascertained, the calendar of Egypt, like any other human invention, serves as an index to point to the amount of civilization developed amongst the people with whom it originated, at the earliest period to which its invention can be ascribed, and thus, though no fixed chronological era may be attained as the result of the inquiry, the antiquity of the Egyptian civilization may be carried back on such evidence to a certain point, though for how long a period prior to that point it may have been in course of development, we may be altogether unable to pronounce.

An investigation into the nature and origin of the Egyptian calendar raises two questions,—1st, What is the nature of the phenomena or events represented? and 2nd, At what period did those events or phenomena take place?

The Egyptian year, as Herodotus tells us he was informed by the priests, consisted of 365 days, divided into twelve parts of thirty days each, with five days added to complete the number; and to the same effect is the testimony of all later writers.

But whether the Egyptian year consisted of 365 days, or of 360 only, in the earliest periods of national history, is a question upon which history affords very imperfect assistance, and must be decided rather on the testimony of the calendar itself.

The names which the months, or twelve greater divisions of the year, received, are well known, owing to their having been preserved by Greek and Roman writers, in Coptic manuscripts, and in the common Arabic names of the months still in use among the native cultivators of the soil in Egypt, which are mere corruptions of the names as spoken in the old Egyptian tongue. As these names have not been found written in the ancient characters, it is difficult to say at what period they were introduced and adopted into the popular calendar of the country.

The representation on the ceiling of the temple of Ramses II., at El Gournah, the Memnonium of the ancients and Ramesseion of modern writers, affords grounds for supposing that the commonly received names of the months are derived from the names of divinities to whom each month was consecrated, or from the festival held in each month, in honour of some individual deity.

The indications afforded by this celebrated calendar of the Ramesseion, are not, however, altogether satisfactory. It is, however, certain, that in the lower compartment of this painting, the king is represented making offerings to twelve deities, one of whom is placed beneath each of the corresponding month divisions of the seasons of the upper line; and that some of these divinities bear names which clearly correspond to the names of the months which were in later times in common use.

In the third month division, the king offers to the goddess

Athor, in the ninth to Chons, and in the fourth month to a goddess whose name at Edfu is written Kahak, though in the Ramesseion she bears the name of the lion-headed goddess, Pasht.

These coincidences are, however, sufficient to show that the vulgar names of the months are, in some instances at least, derived from the names of the deities presiding over, or especially worshipped in each month. At Edfu, the name of the month is written in two instances (Mechir and Epiphi), as "the festival" of the deities mentioned. This seems to be the explanation of the discrepancy which exists between the common names of many of the months, and the names of the deities receiving offering in the calendar of the Ramesseion. The popular names were derived from popular festivals in honour of particular deities, while, in the representations, the monarch offers, no doubt, for reasons individual to himself, to deities other than those whose festivals had given names to the months, accepted by the common people.

In the Ramesseion the months represented by their guardian deities, supposing them to correspond to the Greek nomenclature, appear arranged in the order which is known to have been preserved down to the latest period of Egyptian history.

Hieroglyphic Symbols	Months.
	Thoth. Paophi. Athor. Choiak.
	Tybi. Mechir. Phamenoth. Pharmuthi.

Hieroglyphic Symbols.	Months.
	Pachons.
	Paoni.
	Epiphi.
	Mesori.

The Five Epagomenæ.

These names of the months, with which the Greeks have made us acquainted, as being in common use among the Egyptian people, were never employed officially, or adopted by the scribes or priesthood. No trace of these names has been found in any monumental inscription, or on any papyrus, either in the hieroglyphic, hieratic, or demotic character, but in all Egyptian documents the year is divided into its three seasons of four months each, and the date required is named as the first, second, or third, &c. day of the first, second, third, or fourth month of one of these seasons.

As three seasons of four months each, and each month of thirty days, make a total of 360 days only, the date of an event happening on any one of the five days intervening between the last day of the last season of the year and the commencement of the following season, must, it would seem, have been expressed as of one of those intervening days, though I am not aware of the existence of any inscription bearing a date on one of the Epagomenæ.

The fragment of papyrus, found by Champollion, at Turin, and published by Salvolini,* appears to be the last portion of a journal or list of the 365 days of the year, and the five Epagomenæ there appear succeeding the date of the 30th of Mesori, which is preserved. If this were a journal or record of events, the presence of the symbols of the Epagomenæ would show that they were employed in the same way as the

* Sur les principales expressions, &c. 2nd Letter.

symbols representing the 30th Mesore, but unfortunately nothing but the names of the five days remain on the papyrus. Their absence from the monuments is very remarkable. Mr. Birch, whose acquaintance with Egyptian monuments is so accurate and extensive, does not recollect to have seen such a date on any of the numerous inscriptions he has examined. As, however, each of these days had a name, "the day of the birth of Osiris," "the day of the birth of Horus," &c., it seems that these signs would be employed in recording events. It is, however, very remarkable that no such sign occurs among the numerous dates relating to the rising, culmination, and setting of the stars, recorded on the great figure of the goddess Netpe as the celestial firmament on the tomb of Ramses IX.,* though I am unable to say whether, or how the Epagomenæ have been passed over in the calculations.

It is also worthy of observation, that the space between the last month of the last season and the commencement of the first month of the first season of the year, in the calendar of the Ramesseion is not actually filled up by the Epagomenæ, *but left blank*, either by accident or design; the very existence of the vacant space would lead us to assume the former; though the absence of the Epagomenæ in this represensation is strangely in accordance with their universal absence, in matters of date, from the monuments.

The hieroglyphic symbols which distinguish the three seasons of the year, bear plain testimony to the principle on which the Egyptian written calendar was constructed. The three seasons evidently correspond to the three natural periods of the year in Egypt, arising from the annual recurrence of the increase and retirement of the waters of the Nile. The influence which the phenomena exhibited by the great river of Egypt, exerted on the ancient inhabitants of the valley of the Nile, on their religion, their legislation, and their national customs, is evidenced in a great variety of instances. The beneficent river, at once the creator of their soil and the

* Rosellini, Mon. di Culti, pl. 67, 68.

renewer of its fertility, was reverenced as a deity, while the phenomena of its periodic changes were observed in a philosophical spirit, and practically taken advantage of for the benefit of the community whose welfare and prosperity depended almost entirely upon their annual and certain recurrence.

The commencement of the inundation at a fixed period, the time of the summer solstice, was the most remarkable natural event of the Egyptian year. Rising to its highest point in about 100 days, the river then gradually retired and left the earth fertilized by the deposit received from its swollen waters, in a state most favourable for the operations of the husbandman; this is the season of tillage, of the sowing of seeds, and of the rapid and luxuriant growth of vegetation, and to this succeeds a season when the ripened crops are gathered in the harvest, and the close of that period brings the year round again to the summer solstice, and the renewal of the inundation.

The recurrence of the most obvious of these phenomena, the rising of the Nile at the same period in every year, must have impressed itself forcibly on the minds of the observant and contemplative Egyptians. The natural division of the year into periods connected with the overflow, and the retrocession of the waters of the Nile, a period particularly enforced upon the attention of an agricultural people, naturally led to the formation of an artificial calendar conformable in its divisions to the recurring periods of these annual events.

They were also to the inhabitants of Egypt, what astronomical observations were to their posterity. However early we may suppose men to have been capable of ascertaining the length of the solar year, the observation of the recurrence of the inundation must have preceded the observation of the solstice. The monuments of Egypt, of all periods, show a calendar framed to describe the course of a year, whose circle was included between inundation and inundation, a period of about 365 days.

The coincidence between the time of the summer solstice

and the former event, must naturally have been a matter of later observation.

It is difficult to imagine that the year represented by a calendar founded on the natural events referred to, can ever have comprised a period of less than 365 days. The picture of the year contained in the written calendar in its perfect form, the only instance we possess, in the time of Ramses the Great, indicates a space of time, which, from other evidence, is known to have consisted of five days between the 360th day, and the 1st day of the new year, and the existence of these Epagomenæ is traced as far back as the time of the 12th dynasty.

The opinion of Biot that the addition of the 5 days was made to a previously used 360 day year, about B.C. 1780, was formed at a period when Egyptian antiquity was investigated with a comparatively imperfect knowledge of the monumental evidence since brought to bear on its illustration. The fragment of tradition preserved by Syncellus to the effect that the five days were added to the year, during the supremacy of the Shepherd dynasties is altogether contradicted by the monuments; for, certainly, as early as the time of the 12th dynasty, the division of the Egyptian year was into twelve equal parts, and a remainder of five days over.

If we suppose that the year of 365 days was substituted * for the original astronomical year of 360, which had been previously used as a convenient mean between the solar and lunar year, by collecting the five days necessary for the equation of the solar, which had been subtracted from the excess of the Egyptian lunar year, and adding them to the end of the mean astronomical year, the period of this invention must be anterior to the formation of the symbolic calendar, as the basis of this calendar is a year divided into three natural portions, or seasons, which comprehend the whole time elapsing between the occurrence and the recurrence of the inundation, and which must have consisted of 365 days, at the

* Nolan on the Ancient Cycles. Trans. of Roy. Soc. of Lit., vol. iii., p. 287.

time when these symbols were first employed. And if the basis of the arrangement were such a year of 365 days, the only method of subdivision into whole numbers which could be adopted, preserving these natural divisions, and at the same time maintaining a relation with the lunar period, was the one actually adopted, of dividing the whole circle of 365 days into twelve equal parts of thirty days each, and a remainder of five days. The probability is, that there never was a calendar of 360 days in use, to which the five Epagomenæ were afterwards added,* but that these latter form a part of the original system on which the Egyptian calendar, such as we are acquainted with it, was framed.

The absence of these days from dated monuments, as well of periods subsequent to the time of Herodotus, and therefore of the known use of a 365 day year, as of the earliest times, must have a mythologic reason, which must reach back to a period antecedent to the formation of the calendar, and of which, though tradition has preserved some fragmentary notices, no monuments remain to afford us information.*

That the division of the year into thirteen parts had an original connection with the lunar periods, appears from the hieroglyphic employed to designate the twelve larger of these divisions.

The Coptic word for month is *abot*, or *ebot*, which as Zoega has remarked, is probably derived from *abit*, also Coptic, a house or station, as signifying the house or station of the moon in the heavens. The period of time included in the five remaining days, is also called in Coptic *pi abot en Kouji*, "the little month," (or station of the moon.)

The names of the great deities to whom these five days are assigned, Isis, Osiris, Horus, Typhon and Nepthys, as also

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* Diodorus i., 22, relates a story which seems to intimate that there was a sacred year consisting of only 360 days. He says, "that the sepulchre of Osiris at Philæ, was revered bythe priests throughout Egypt; and that 360 cups were filled daily with milk, by priests expressly appointed for this purpose, who, calling on the names of the gods (query of the *God* Osiris), utter a solemn lamentation."

the story of their origin, related by Diodorus, are sufficient to assure us that this arrangement is at least as ancient as the origin of the Osiris-myth; that is, as ancient as the Egypt with which we are acquainted, extending as this myth does into the early part of the Pyramid period.*

The monumental evidence of its existence in its present state, is coeval with the oldest monument with which we are acquainted. Dr. Lepsius has found the symbols which represent the seasons on the stones of the Great Pyramid of Daschour, probably the oldest known monument of Egypt, whose construction he assigns to the third Manethonian dynasty. The origin of the calendar is, therefore, as old, or older than this era, and the internal evidence which it affords, carries it back to a period much more remote.

As the hieroglyphic symbols which are used to signify the three seasons of the year evidently amount to representations of the natural phenomena of the year before alluded to; the period at which they were first employed, may be approximately fixed, if we can ascertain the period at which the natural phenomena and the calendar, or representation of these phenomena, coincided.

The Egyptian vague year we know commenced with the first day of the month, Thoth. At some period of Egyptian history, though at what era we are not able to determine, the commencement of the fixed year was calculated from the heliacal rising of the star Sothis, when the 1st Thoth coincided with that event. But as the vague year of 365 days was less than the period of the sun's course by nearly a fourth part of a day, the termination of the vague year fell behind the commencement of the fixed year, one day in every four years, so that after four years, the commencement of the solar fixed year fell on the second Thoth of the vague year, after eight years on the third Thoth, and so on, until

* Birch, On the Hieroglyphic Inscriptions on the Coffin of King Menkere, in Vyse's Pyramids of Ghizeh, vol. ii., p. 94; and Letters to G. R. Gliddon, Esq., On the Relative Epochs of Mummies, in Otia Egyptiaca, p. 79.

the period of 365 times four years, or 1,461 vague years had elapsed, when the next new year's day of the fixed year again fell on the first of Thoth, and hence the period or cycle of 1,460 fixed, or 1,461 vague years, in which the first Thoth of the vague year had fallen on every day of the fixed year until both again came into correspondence.

But the Sothic period of 1,461 vague years, while it served to renew the correspondence between the fixed and the wandering year, was not a cycle to which the written calendar was originally adapted. The first day of the water season of the vague year did not pass round the year from the summer solstice, and the commencement of the inundation, to fall again at the same point in 1460, but in 1505 years, the true length of the solar year being not 365¼ days, but rather less, *viz.*, 365 days, 5 hours, 48′, 48″. The true length of the cycle, therefore, in which the first of Thoth would fall successively on every day of the year from summer solstice to summer solstice was 1,505 years.*

If the calendar had been framed to represent a year, based on the coincidence of the first Thoth with the heliacal rising of Sothis, its origin would date from a time when this latter event occurred at the time of the summer solstice, and the commencement of the inundation, and this actually took place, according to Professor Lepsius, in Southern Egypt, in B.C. 2,782, when the first Thoth fell at the summer solstice. But the calendar, as I have observed, appears on monuments much older than this date, and the two events never subsequently fell together at the summer solstice. The symbolic calendar, whose fixed point of departure is the inundation, and, therefore the summer solstice, could

* This period, taken in round numbers, as 1,500 years, is that which Dr. Lepsius maintains, with great force, to have been the true Phœnix period of the ancients. The Phœnix, according to his explanation, was the sun, as Sothis was the star of the inundation. The connexion of the Phœnix with the inundation is evident, from the monuments and Horapollo, and it is not improbable that this symbol represented the period in which the commencement of the vague year, which once corresponded with the commencement of the inundation, again returned, to coincide with that phenomenon.

not have been originally intended to represent a year whose commencement was fixed by an event which did not coincide with those phenomena.

The term *inundation*, in the sense in which I use it, is applied to the commencement of the rising of the Nile at the period of the summer solstice, as marking the commencement of the year. A very different view of this subject has, however, been taken by Mr. Poole, in his Horæ Egyptiacæ,* who supposes that the year in use before the application of the Heliacal rising of the Sothis to determine its commencement began with the *winter* solstice. "The ancient Egyptian year," says Mr. Poole, "was divided into three seasons—namely, four months of vegetation, four months of ingathering, and four months of the waters or inundation. Any one who is acquainted with the physical phenomena of the year in Egypt will see at once that this nomenclature could not have been instituted for a Sothic year, nor for a year commencing with either of the equinoxes. The character of this year can be most accurately ascertained by the last season, that of the inundation. We find that the four months during which the Nile is higher than at any other period of the year, according to the most accurate modern observations, commence just a month and a half before the autumnal equinox, and terminate just two months and a-half after the same equinox. But we find by the Egyptian Almanacks, that, according to a tradition handed down by the Copts, what is called the 'Bridal of Nilus,' which is the ceremony of the cutting of the dam which closes the mouth of the canal of Cairo, formerly called the Amnis Trajanus, took place in ancient times exactly one month before the autumnal equinox. Now it is by this operation that the inundation is allowed to commence, the water being previously confined between its banks, and no other canals being allowed to be opened before to admit the water upon the lands. *The true period, therefore, of the commencement of the inundation* was one month before the autumnal

* Lit. Gazette, Feb. 3, 1849.

equinox, and the end at the winter solstice. *Thus we see* that the tropical year anciently in use among the Egyptians commenced with the winter solstice, when all things in Egypt began anew."

It is difficult to understand from these statements *how* we are to see that the Egyptian tropical year began with the winter solstice. The basis of the argument is, that the *Season of the Waters* was reckoned not from the commencement of the rising of the Nile, but from the time, arbitrarily fixed at one month before the autumnal equinox, when it had or was accustomed to have attained its greatest, or greatest required height, so that the four months comprised in that season, and the five days added to the seasons, terminated at the winter solstice.

To this supposition the calendar itself offers a decisive contradiction. That the invention of the ancient calendar is not based upon any astronomical event, such as the winter solstice, is evident from a mere inspection of the symbols by which the course of the year is depicted, and which clearly represent three divisions founded on three natural events connected with the Nile and with agriculture, and not with any position of the sun in the heavens. If the fixed year began with the winter solstice, the invention of this vague year's calendar and its symbols must be ascribed to a period when the first day of the water season corresponded with the greatest required height of the river, 125 days before the winter solstice. But the winter solstice has no connection with any one of the natural phenomena of the year. Observation shows, that while the period of the commencement of the rise of the Nile occurs with remarkable constancy at the summer solstice, the rapidity with which it rises is very variable, and the time when it has attained a sufficient height for the artificial inundation very uncertain. To attribute any value to a tradition that "the cutting of the dam at Cairo in ancient times took place exactly one month before the autumnal equinox," in fixing the commencement of the water season, is quite impossible. In 1834 the river rose with such rapidity that

the dam was cut on the 5th of August, only six weeks after the commencement of its rise,* and nearly two months before the autumnal equinox. The period varies also with the condition of the canals and the works intended to promote the distribution of the water. According to Strabo, the engineering labours of Petronius placed these works in a state in which the rise of twelve cubits sufficed, while before that time fourteen had been necessary. Nor is there any connexion between the winter solstice and the end of the inundation. According to the best authorities the river continues to fall from the point of its greatest height during the remainder of the year, until its rise again commences. Under these circumstances, there could be no relation between the tropical year, commencing at the winter solstice, and a natural year whose fixed point was regulated by an event of so variable and inconstant a character; no cycle could be invented capable of correcting the aberration of such a year from the tropical one.

The commencement of the rise of the Nile, on the contrary, is intimately connected with the period of the summer solstice. The exact determination of the solstitial point was probably beyond the power of the Egyptian astronomers, and thence the adoption of the heliacal rising of Sirius, to mark the commencement of the year. We have the fact that the year commenced at this point in the time of Rameses the Great, and there is not a shadow of evidence to warrant the supposition that at any previous period its commencement was dated from the winter solstice. What evidence there is shows that the commencement of the inundation, the summer solstice, and the heliacal rising of Sirius were three originally mutually connected phenomena which formed the point of departure for the written calendar, and the commencement of the Egyptian year.

The symbolic representations of the seasons must originally, as Professor Lepsius has observed, have been intended to

* Lane Modern Egyptians, p. 129. Knight's ed.

depict the course of a *natural year*, and not to be applied to a *vague year*, such as that to which we find them adapted.

According to the usual interpretation of these symbols first given by Champollion, the season commencing with the first Pachons is the season of the waters, and the hieroglyphic symbol employed to designate that season must have been assigned to it, when the first Pachons coincided with the commencement of the inundation, and consequently with the summer solstice.

This correspondence of the artificial calendar with the phenomena of the natural year, could only occur, as has been observed, every 1,505 years; or the period which intervened between one solstitial first Thoth, or Pachons, &c., and another.

Biot* has ascertained the years in which the first Pachons fell on the summer solstice to be 275, 1780, 3285, 4790, &c., B.C. or according to Dr. Lepsius 272, 1777, 3282, 4782, B.C.

At one or other of these dates, therefore, or a date earlier by one or more periods of 1,505 years each, the present calendar, (supposing the generally received interpretation of the symbols to be correct) must have been framed and adopted. As the appearance of the calendar's symbols on the monuments of the 12th dynasty, and on other monuments whose date extends up to the Pyramid period, precludes our taking either of the two latter of these epochs for its origin, we pass on to the commencement of the next 1,500 year cycle, the year B.C. 3,202.

This is the epoch to which the Chevalier Lepsius, after a lengthened and most instructive investigation,† refers the origin of the Egyptian calendar. He says, that in the year B.C. 3,282, the first day of the first month of the season, which, after Champollion, is that of the inundation, that is, the first Pachons fell on the summer solstice, and, therefore, corresponded with the commencement of the inundation. In the same year another astronomical event of great importance

* Sur l'année Vague, p. 62. † Chronologie der Ægypter. Berlin, 1849.

in this matter occcured, the heliacal rising of Sothis at the same period of the summer solstice.

If, however, the calendar originated at the epoch above indicated, when the month Pachons corresponded with the commencement of the inundation, and was designated as the first month of the year, it is at once evident that at some period between that epoch and the reign of Ramses the 2nd, a great alteration must have been effected, and the calendar modified and reformed, when the commencement of the year was placed in connection with the month Thoth.

This change, which Dr. Lepsius calls the "reform of the solar calendar," he fixes at the year B.C. 2,782. At this point of time, one third part of the cycle of 1,500 years had elapsed, and the first of Thoth now corresponded with the summer solstice. In this period of time also of 500 years, the heliacal rising of Sothis had departed from the solstitial point, between four and five days.

In the year B.C. 3,282, when the calendar was first arranged, the ruling dynasty was that of the great pyramid builders, the fourth dynasty of Manetho, whose seat was at Memphis. But 500 years later, in B.C. 2,782, reigned the sixth dynasty, who ruled in Upper Egypt, either at Thebes, This, or Elephantine. At this epoch also the reigning sovereign was the renowned Pepi (Phiops) who ascended the throne at six years of age, and reigned one hundred years, from 2,844, to 2,744, B.C.

At this time also, the heliacal rising of Sothis happened at Memphis, exactly four days after the summer solstice. The two astronomical events, therefore, which marked the rising of the Nile, no longer were in accordance. But at Thebes, the heliacal rising of Sothis occurred four days earlier than at Memphis, at Syene or Elephantine as much as five days earlier, and therefore corresponded with the day of the summer solstice. At this latter place, then the metropolis of the sixth dynasty, the first Thoth and the two great astronomical phenomena of the year were exactly in

correspondence, and at that epoch was carried into effect the reform of the calendar, which connected the inundation and the commencement of the year with the first of Thoth.

Every one must admire the learning, research, and the ingenuity displayed, in this explanation of Dr. Lepsius. There are, however, some circumstances connected with this supposed reform of the calendar which appear very remarkable. It is evident that, at the same time that the commencement of the year was transposed from the first Pachons, to the first Thoth, the five Epagomenæ must also have been transferred from their then position, between Pharmuthi and Pachons, to the one in which we now find them, between Mesori and Thoth. That when they ear began with Pachons, these five days must have been placed at the end of Pharmuthi is evident from the nature of the division of the calendar itself. From this also it follows, according to Dr. Lepsius, that the names of the months, such as we now have them, were most probably introduced at the same period. The name of the last month, *Mesori*, he says, shows that "the birth of the sun," that is of the year renewing itself at the summer solstice, occurred at the end of that month, and can only be connected with a year which began not with Pachons, but with Thoth; and with a normal epoch when the heliacal rising of Sothis fell on the first Thoth.

The reform of the calendar, therefore, which then took place was radical; the place of the Epagomenæ was shifted a third part of the circle; the names of the months were either altered, or newly introduced, and in either case were, in some instances, at least, significant of the natural phenomena represented by the calendar. "The Sothic period was thereby destroyed, and must after this reform have been altogether reckoned anew." It is hardly possible to conceive a more entire remodelling of the whole calendar than the one here represented, and yet in the midst of all this change the Egyptian priests permitted the hieroglyphic symbols which had been invented to represent the natural

phenomena of the year, as it stood before the period of this reform, to remain unchanged, and in a state in which they gave a false representation of the year. For although the vague year in its departure from the solar carried its new year's day round the whole circle of the natural year, the end of the great year or Sothic cycle would, if the symbols of the seasons and the seasons corresponded, bring them again into their original places. But the system which permitted the symbols to remain unchanged when the whole calendar was re-arranged, prevented the possibility of the first month of the reformed year, the commencement of the inundation of the Nile, and the representation of that season in the calendar, ever coming into correspondence. When the hieroglyphically represented season of the inundation actually corresponded with the rise of the Nile, the new year's day would fall between the autumnal equinox and the summer solstice.

So remarkable a departure from the evident original intention of the framers of the Egyptian calendar requires some explanation, though as far as I am aware none has been offered. The interpretation originally given by Champollion, of the hieroglyphic symbols of the three seasons, is apparently so self-evident, that it seems presumptuous to question its accuracy. There seems, however, to be reasonable ground for the opinion that these symbols have hitherto been misinterpreted, an opinion founded on the names of the seasons as written in the demotic character.

The hieroglyphic symbols of the seasons, according to the phonetic value of their signs, are

1 2 3

Schei or Schet.  Here or Hert.

Shei.

The first, comprising the months of Thoth, Paophi, Athur, and Choiak, called the Garden Season or Season of

Vegetation, is explained by Champollion,* as "an abbreviation of the word *schom*, summer, comprising the *he en schom*, or the spring." "It represents a sort of garden planted with trees or flowers, (*schni*, a garden)."†

The second, or Season of Harvest, called *her* or *her-t*, is supposed to correspond to the Coptic *hre*, "food."

The third, or Water Season, or Season of the Inundation, consists of a figure of a basin of water, a well, or reservoir of water, *schei*, following by the determinative sign of water,‡ and therefore interpreted the Season of the Inundation.

The hieratic signs for the seasons are mere transcriptions of the hieroglyphic, and call for no remark; but an examination of the names of the seasons in the demotic character leads to a very different result. It has already been remarked by the learned M. de Saulcy,§ that of the three demotic names of the months, one only, that of the second, was represented by the same word, both in the sacred and in the vulgar dialect, the two others being represented by words totally different, and he adds "proper to each dialect."

M. de Saulcy, however, has not made any attempt to explain the nature of this difference between the hieroglyphic and demotic names of the seasons. Considering the reading of the hieroglyphic characters to be fully and sufficiently established, he has endeavoured to force the demotic into correspondence with the hieroglyphic reading; the method which I propose, is to show that the names intended to be conveyed by the hieroglyphic symbols are really written in the demotic, and that the reading of the latter must guide us in our interpretation of the former. The investigation of the value of these signs by the learned French archæologist, to whose labours on the demotic writing we are so much indebted, occurred in the course of his analysis of the demotic inscription of the Rosetta Stone; and the characters which he gives as representing the first season of the year, appear to be

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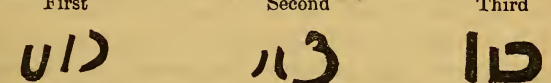
* Dictionnaire Egypt. p. 211. † Ib. p. 210. ‡ Ib. p. 266.
§ Analyse Grammaticale des Textes Demotiques, &c., p. .

taken from that inscription; which from the very nature of the material on which it is engraved, and the carelessness of the execution, is notoriously one of the worst executed and most confused of demotic inscriptions. In this way, M. de Saulcy has been led to argue upon an incorrect reading of the demotic name of the first season.

The general method of arrangements and the notation of the months is the same in both modes of writing; the names of individual months are not written in the demotic any more than in the hieroglyphic; but as in the latter the months are counted as the first, second, third, &c., of each season.

The demotic name of the first season is written in three different ways:—

First Second Third



In every one of which the word reads *Mau*, water. In the first instance the initial letter is the common and universally recognized form of *M* used in the name of Ptolemy, on the the Rosetta stone; in the second, it is the *M*, in the same name in the Grey papyrus, and in the demotic inscriptions of Philæ, and other places; and in the third, it is the *M* in *Kemou*, "Egypt," of the Rosetta inscription.* (See plate, figs. 2, 3, and 4.)

The terminal character in the first word is variously read. Champollion considered it a determinative common to words whether symbolic or phonetic, which represented divisions of time. Salvolini attributes to it, when, as in this instance,

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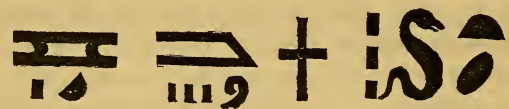
* This triple proof of the value of the initial letter removes all doubt as to its reading. The best proof we have of the value of unknown characters arises from their occurrence in identified names, or their transcription into the characters of a known language, as in the Leyden magic papyrus. When the value of a letter is fixed by such means, this value must not be changed merely to suit a conjectural or convenient translation. In the Scriptura Demotica, a work of which it is impossible to speak too highly, Brugsch reads the word *Mau*, No. 2, where it occurs not as the name of a season, but adverbially in the

a final letter, the value of *r;* while Brugsch* makes it the vowel sound *ou.* The word whether read *Mou* or *Mare* equally signifies water. In the Coptic, *Mere* is "the inundation," and the same word is similarly written in the hieroglyphical, as well when forming part of the name of the River God, Hapi Mere, (plate, fig. 8) as where the inundation itself is spoken of, as in the speech of the Goddess Sate to Ptolemy Philometor at Philæ,† or the "the waters," generally as:—



The goddesses who inhabit the waters.‡ Dr. Lepsius has pointed out the connection between this word *mere*, "water," "the sea," and the traditional name Mœris, applied to the construction of the Great Lake of that name.

The word *Nare*, which M. de Saulcy has given as the name of this season, is evidently founded on an incorrect transcrip-

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21st and 29th lines of the Rosetta stone; *sha*, "up to;" "usque ad," *sha teten*, (plate, fig. 7,) "for ever," and *sha hoou tou*, (plate, fig. 1,) "for five days." If this were the true reading, the demotic name would be actually a transcription in sound of the hieroglyphic name of the season *Schai.* But in that case, we must give up the reading of the name of Ptolemy with this letter, for it is impossible that the same character can have the power both of *m* and *sh*, though an interchange of *m* for b, v, f, or even p, would be perfectly regular. The word in these last instances is evidently *mai;* the Coptic *mah*, a word of common use, prefixed to cardinal numbers to give them an ordinal value, as *hen t. mah, snout n. rompi*, "in the second year;" *pi ehoou m. mah snout*, "the second day," &c. The reading of the places referred to on the Rosetta Stone is *ma teten*, "eternal," "times without end," and *ma hoou tou*, (from the first Thoth) "to the fifth day."

* Scriptura Demotica, 1848.

† Lepsius Chronolog. p. 263.

‡ Champollion, Gr. Egypt., page 483.

tion of the demotic name of the month Thoth in the 29th line of the Rosetta inscription, which he give as  *

On comparing the copies of the demotic text published by Salvolini, Birch, Lepsius, and Brugsch, † it will be seen that this transcription is incorrect, and that this season is written in the 29th line with the letter *m*, and that the word is, as in all other instances, *Mau*, or *Mere*.

M. de Saulcy's attempt to reconcile the demotic *na* or *nare* to the *Schei* of the hieroglyphic name for this season, by comparing *na* to go, to come, *na erhai* "to ascend," "to arise," (as the sun), with the corresponding signification of *Schei*, is therefore inadmissible.

The name of the first season in the demotic is "the *Water Season*," the season of the *Mere* or *Inundation;* and this, as it appears to me, must be taken to be *the demotic transcription of the Hieroglyphical symbol of this season.* This symbol is a *water plant*, not the usual determinative of plants or vegetation. Its pronunciation is determined by the phonetic character accompanying it to be *Schei*, a plant, as in the name of the ivy, according to Plutarch, Chenosiris, that is *Schei n osiris*, the plant of Osiris. Reading both the signs together, the name of the plant is *Schesch.*

There is nothing in the symbol itself which particularly characterizes the commencement of vegetation, or the growth of plants generally; on the contrary, it points out a particu-

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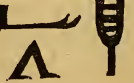
* This error has been perpetuated in the plate of Dr. Lepsius. Chronolog. Egypt. page 134.

† *Die Inschrift von Rosetta*, Berlin, 1850.—A new and most valuable production of the learned author of the *Scriptura Demotica.*

‡ The name of the nation whose chief is slain by Ramses II. in the representation at Abou Simbel, Burton's Exc. pl. 53, is *Shos*, and this name is written on the garment of the warrior, who is falling before the spear of the king, by *water-plants* very similar to the sign under discussion, and in the inscription by this sign. The word *Shos* is preserved in the Coptic as the name of the (water ?) lily. With the sign called "*a sieve*" written underneath the season symbol, the whole word would be *Schesh*, "the water lily."

lar specific kind of vegetation, and taken in connection with the demotic name of the season, this symbol may be considered to represent that period of the year when *the advancing waters of the Nile* gave rise to the rapid development of the *water plants* which fringe its banks; and by their predominance give a decided character to the vegetable physiognomy of the season.

The second season in the Demotic is, first,  or, secondly  *Hi*, *Her*, or *Hoou*. This group, especially if, as M. de Saulcy asserts, the final character of the second be an *r*, exactly corresponds with the hieroglyphic name of this season. That the first group is also an equivalent of the hieroglyphic is apparent from the circumstance that it occurs in the well-known title of the Ptolemy of the Rosetta inscription rendered in the Greek *Epiphanes*.

The hieroglyphic characters which form this name are,  the first part of the corresponding demotic group is  . Neither De Saulcy nor Brugsch have recognized the value of the sign in the demotic which represents the determinative of the hieroglyphic group  . It is, however, clear that the demotic  is its representative, as I have ascertained that it represents that sign in several demotic words, and in every case is a determinative. This is very evident on comparing the hieroglyphic group of the Rosetta stone  "to set up," with

the corresponding demotic (pl. fig. 5), where the relation of the two signs is clear. The same determinative occurs at the end of other words as a determination of action, as in the group which corresponds to the Greek απελυσε, "he has remitted." The whole phrase which in the demotic represents the title Epiphanes, consists of the group above-mentioned, and the following one, and reads altogether, *he em aour*, "coming into light," as the Egyptian translation of the Greek Epiphanes.

The first demotic mode of writing the second season of the year corresponds then to the hieroglyphic. The meaning of the word is somewhat doubtful; it may be "the coming forth," as the earth on the retirement of the inundation, or alluding to the period of vegetation. But the absence of the determinative seems to me decisive against the opinion that the word represents an idea connected with "action." If it represents the same words as the second figure *her* or *hoou*, as it would seem that it must, its signification is tolerably clear. This last word, in six places in the Rosetta inscription, translates the Greek σιτος or σιτικας, *corn* or *grain*, and the corresponding group in the hieroglyphic, *the figure of*

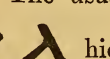
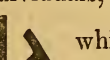
an ear of corn, with the determination of grain

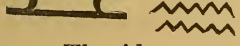
fixes its meaning. This agrees with the translation of Champollion, *hre* "food," who says, that the season represented is "that division of the agricultural year in which corn in general, or the cereals, came to their complete maturity; it is then *the season of grain* or *harvest*." If, however, the preceding season, is as I have endeavoured to show, the season of the inundation, this, the next following, cannot be that of harvest.

The Greek text speaks of σιτος *corn*, and the corresponding symbol in the hieroglyphic text is in the nature of a double determination representing seed or grain, and showing what kind of seed was meant, or representing an ear of corn and

showing that the seed of the corn was the thing to be represented. There is nothing about the symbol which necessarily carries the idea of crops arrived at maturity, or the operation of *harvesting;* on the contrary, the Egyptian texts translates the Greek σιτος as the seed of the corn (plant). The season is on this supposition that of *seed sowing*, particularly *corn*, a season which naturally succeeds to that of the inundation.

That the word *her* does not relate to *harvest* or *the gathering of the crops*, but to *tillage*, or the *cultivation of the crops*, appears from a passage cited by Salvolini in support of the contrary opinion, (plate fig. 6). The inscription, which is from a stele in the Louvre, is to this effect, "Amonra, lord of the thrones of the world, lord of heaven, king of the gods, &c., the living god manifested in the celestial Nile, illuminator of the terrestrial world, by the rays of his light, *ouon-nofre*, *that* is to say, *the nourisher* (ERT HRE) of the race of mortals." The meaning of the word *her* in this passage is determined by the two signs of the *plough* and the *three grains.* The idea expressed is not that of *nourishment* as connected with the idea of *food*, but *cultivation* in the sense of *care*, "he who cultivates the race of mortals, or the human seed, as a husbandman cultivates his crops." In the list of determinations appended to the Chevalier Bunsen's Egypt, the plough is given as the determination of the word *hr* "to harrow."

The usual form of the third season of the Demotic is  hiou. It would be very difficult to decide on the pronunciation of this word, the final character of which is constantly employed as determinative of proper names of ndividuals, were it not occasionally written in another form  which shows it to have been a double vowel sound. It does not, therefore, correspond with the sound of the hieroglyphic characters which have the pronounciation *Schei.* These characters represent a basin, well, or reservoir of water. Champollion considered these to represent the inundation of

the Nile; but, as I have before observed, this is not the method of representing the inundation in hieroglyphic characters, either as to the symbols or the sound. The initial character of the word signifying the inundation  has the phonetic value, not of *s*, but of *m*. The idea represented by the hieroglyphic forming the third season, is not that of a rising water, or of an overflow, but of water at rest, contained in a reservoir or canal, and this idea is expressed by the word as written in Demotic. We have in Coptic *hoi*, "a canal, an aqueduct," whence is derived the word *ref-hioi*,* one who is concerned with canals "an irrigator." On this supposition the third season is both in the hieroglyphic and demotic writing the *season of wells or canals of water*, which applies with great exactness to the last season of the year, when the waters of the Nile had receded to their narrowest limits, and the cultivation of the land was carried on by aid of *irrigation*, and the use of the water collected in the canals and reservoirs during the period of the inundation, and, therefore, the *Season of Irrigation*.†

The result of this investigation is, that the demotic names of the seasons are transcriptions into the demotic characters and dialect of the *meaning* of the corresponding hieroglyphic symbols. That this is so in the instance of the middle season *Her*, is absolutely proved, and that it must be so in the other instances is clear, not only for the reasons given above, but because if it were not so, we should have a discrepancy between the hieroglyphic and demotic, not founded on any system, and totally inexplicable. For if it be supposed that the demotic nomenclature originated after the period when Thoth was the first month of the year, and at a time when that month coincided with the commencement of the inundation, it is not probable that the name of the second season

* De Saulcy, Analyse Grammt.

† Seyffarth Syst. Astronom. Egypt., reads this symbol "sō" to irrigate; but connects the season which it represents with the inundation of the Nile.

would have been permitted to accord with the same name in the hieroglyphics, when the season represented by the one was the vegetating, that by the other, the season of the ripened crops. The reasonable result is, that in both kinds of writing the same names are contained, and that the true meaning of the hieroglyphic symbols is to be ascertained by the aid of their transcription into the demotic. On this ground, the twelve months of the year must be arranged in three groups of seasons, as follows:—

Symbols.	Months.	Seasons.
	Thoth. Paophi. Athor. Choiak.	Season of (the Water Plants) Inundation.
	Tybi. Mechir. Phamenoth. Pharmuthi.	Season of Seed Sowing, or Tillage.
	Pachons. Paoni. Epiphi. Mesori.	Season of Irrigation.

The Five Epagomenæ.

According to this arrangement, the written calendar of Egypt, at the time when it received the form in which we now find it, was adapted to a state of things in which the year began with the month of Thoth; and the months Thoth, Paophi, Athor, and Choiak, were comprised in that division

of the natural year in which the inundation of the Nile took place. As the inundation commenced at the summer solstice, and the first Thoth corresponded with the inundation, the calendar must, for the reasons before mentioned, have been framed when the first Thoth fell at the summer solstice.

Following the data of Biot for the periods at which the first Pachons was solstitial, we find the years on which the first Thoth coincided with the summer solstice, to be about

B.C. 1,277—2,782—4,287.

One of these epochs then we must fix upon as the latest date to which the invention of the Egyptian calendar can be assigned, because at no other periods could the natural phenomena and their written representation have been in accordance. The evidence adduced by Dr. Lepsius shows clearly that the calendar was in existence before 2,782 B.C., and the next epoch at which the requisite coincidences occurred was in B.C. 4,282, *at which time the Egyptian calendar must have been in existence, though it may have been invented at a much more remote period.*

The reasons which induced Dr. Lepsius to fix the invention of the calendar at B.C. 3,282 are mainly founded on an interpretation of the season symbols which I have, I hope, shown to be erroneous. The opinion that the season of the inundation began with the month Pachons rendered it necessary to conclude that the calendar had originally been framed when the first Pachons coincided with the commencement of the inundation, and this erroneous conclusion necessitated the assumption of a change in the arrangement of the calendar at a later period, 500 years afterwards, in order to bring the commencement of the year in correspondence with the month Thoth. At the same time it was necessary to assert that the Epagomenæ were once placed between Pharmuthi and Pachons, and that at the period of this great reform they were removed to their present position, between Mesori and Thoth, all assumptions unsupported, if not contradicted by monumental evidence, but most admirably adapted to the necessities of the case.

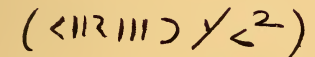
If, as I believe, the positions which I have laid down are capable of being sustained, the Egyptian calendar of the Ptolemies is the same as that of B.C. 4,287; the year was at that remote period divided into three natural seasons, the first of which originally coincided with the commencement of the inundation; the year began with the month Thoth, and ended with Mesori; or if those names were introduced at a later period, they were adapted to the original and existing form of the calendar. The hieroglyphic symbols which represent the natural season of the year are not self-contradictory, nor did the Egyptian priesthood permit so remarkable an anomaly as the entire change of the arrangement of the calendar, with the exception of the symbols by which it was to be represented. The place of the Epagomenæ was that in which we see them in the sculptures of the Temple of Ramses II., between Mesori and Thoth, the position they must have occupied in a year in which that month commenced the year. In this way, also, the discrepancy supposed to exist between the hieroglyphic symbols and the demotic names of the seasons, is shown to have no real existence, but both methods of Egyptian writing are in harmony with each other, and with the evident nature of the phenomena to which they refer.

The bearing of this investigation on the antiquity of the Egyptian civilization is very important. The commencement of the fourth dynasty of the great pyramid-building kings of Memphis, is placed by Dr. Lepsius on other grounds, at B.C. 3,282, and to the same period he refers the origin of the Egyptian calendar. The pyramids and the tombs contemporaneous with them demonstrate that the mythology of Egypt, the Isis and Osiris myth, the practice of embalment and its attendant ceremonies, the doctrine of the metempsychosis, or at least, of the soul's wandering through the heavenly regions, were at the time of their construction fully developed on the banks of the Nile. The perfection to which the arts had arrived may be judged of by the same testimony. The coffin of Menkare exhibits a system of

hieroglyphic writing as complete and perfect as at any later period. Indeed, it may well be questioned, if the grandest period of the Egyptian empire, is not that which precedes the obscurity out of which springs the brilliant but comparatively short period of the Thothmesside and Ramesside sovereignty. And yet, if the origin of the calendar be assigned to no earlier date than B. C. 3,282, this invention (which from its nature is purely Nile-born) was only coeval with a time when such monuments as the Great Pyramid of Daschour was in course of erection. The carrying its origin back upon philological evidence to the period I have assigned, viz., B.C. 4,287, gives, at least, another thousand years to the unknown period, during which the civilization of the world was gradually developing in the valley of the Nile, and in which the power, the skill, and the intelligence of the Egyptian people were gradually attaining to the degree of which the great monuments of Memphis are the material symbol.

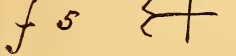
London: Bateman and Hardwicke, Printers, 14, Clement's Lane, Strand.

Fig 1

f. 2 

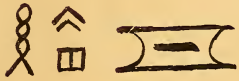
f. 3 

f 4. 

f 5 

f 7

f. 6 

f. 8 

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